PATENT SPECIFICATION

Application Date: Aug. 19, 1927. No. 21,896/27.

296,885

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Complete Accepted: Sept. 13, 1928.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Illuminating Apparatus.

We, HOLOPHANE LIMITED, a company organised and existing under the laws of Great Britain and Ireland, of Holophane House, Elverton Street, Vincent Square, London, S.W. 1, and ROLLO GILLESPIE WILLIAMS, of British nationality, of 39, Southdown Road, Wimbledon, London, S.W. 19, do hereby declare the nature of this invention to be as follows:—

This invention relates to illuminating apparatus used for illuminating walls and similar surfaces.

In the case for example of a cinematograph theatre or other complete building, it is sometimes desired to provide changeable colour lighting of this character of considerable intensity. This entails bulky apparatus which must be housed in an already existing building as far as possible out of sight so as not to interfere with existing schemes of decoration. In the case of illumination of walls the only available space is usually above the ceiling at a distance from the wall to be illuminated, the light passing through a slot cut in the ceiling. This has the great disadvantage that the edge of the slot nearer the wall cuts off the light, and a portion of the wall extending down from its junction with the ceiling is left unilluminated. Moreover, the plain slot in the ceiling leaves the apparatus still visible and forms a bad break in the decoration.

According to this invention the slot in the ceiling or like surface is provided with optical means to direct the light in the desired directions so that the whole desired surface is illuminated. Such means at the same time conveniently serve to obscure the apparatus and form a continuation (apparent or real) of the surface in which the slot is made. Preferably the optical means consists of suitably designed prismatic glassware used alone or in conjunction with diffusing and/or protecting arrangements.

The invention permits the apparatus to be located at any convenient distance from the surface to be illuminated without reference to the question of cut off by the slot edges. This enables the disguised aperture to fit in with and even enhance the existing decorative scheme.

In one preferred embodiment of the invention a closed structure is formed containing light sources, reflectors and colour filters, and closed in front by prismatic glass designed to refract the light in the required directions. The prismatic glass front and holding arrangements are designed so that when the whole structure is secured in position the prismatic glass front fills the slot and forms a continuation of the adjacent surface. It will be understood that the prismatic glass may have prisms of different forms on different parts of its surface as may be necessary, and that it may be in several parts. Further, the refracting prisms may be on the inner or outer surface, while the outer or inner surface respectively may be provided with diffusing flutes or prisms. Or diffusing means may be provided on a second sheet of glass, while a plain sheet of glass may cover the exterior to render cleaning easier. A screen of wire netting or the like may be provided in front of the glass as a protection in case of breakage.

A particularly satisfactory structure may be made up by using a batten light such as is described in our Specification No. 271,212, and adding side and end walls. One of the side walls preferably has a hinged portion to allow access to the interior for cleaning and the prismatic glass is held in a convenient frame and closes the front opening. Brackets are attached to the outside to enable the structure to be secured to any convenient structural members of the building in which the apparatus is installed.

Alternatively to the use of glass with refracting prisms through which the light is transmitted a reflecting system may be used. For example a batten as mentioned above may be laid on its side adjacent to the slot so as to be out of sight while a reflector rises from the opposite edge and is designed to produce the desired light distribution. This may be effected by giving the reflector a suitable curvature, or by using glassware provided with reflecting prisms. If a curved mirror is used its surface is preferably broken up in some way so that a definite reflection

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of the apparatus cannot be seen by anyone looking straight into the slot.

In another alternative a row of light sources is arranged on each side of the slot out of sight and a reflector of suitable curvature or with reflecting prisms is mounted over the slot.

In both the above alternatives there is an actual break in the surface at the slot but the reflector is close behind and the effect on the observer is of a more or less continuous surface.

If desired glass with diffusing and/or refracting prisms may be used over the slot in conjunction with the above alternative forms.

In the case of cinematograph and other theatres the provision of low illumination or pilot lighting during the performance is usually prescribed. With this method of colour lighting it is desirable that the pilot lighting should be of the same colour as the main lighting so that the effects are not disturbed. According to a further feature of this invention, therefore, we mount the pilot lights in the main lighting apparatus and arrange the switches so that when the main lighting is switched off pilot lighting of the same colour is left on. Thus if the main light at any moment is say red for example, when this is extinguished a red pilot light is left on.

Dated this 19th day of August, 1927.

SEFTON-JONES, O'DELL & STEPHENS,
Chartered Patent Agents,
285, High Holborn, London, W.C. 1.
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in and relating to Illuminating Apparatus.

We, HOLOPHANE LIMITED, a company organised and existing under the laws of Great Britain and Ireland, of Holophane House, Elverton Street, Vincent Square, London, S.W. 1, and ROLLO GILLESPIE WILLIAMS, of British nationality, formerly of 39, Southdown Road, Wimbledon, London, S.W. 19, but now of 60, Elgar Avenue, Surbiton, Surrey, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to illuminating apparatus used for illuminating walls and similar surfaces.

In the case for example of a cinematograph theatre or other complete building, it is sometimes desired to provide changeable colour lighting of this character of considerable intensity. This entails bulky apparatus which must be housed in an already existing building as far as possible out of sight so as not to interfere with existing schemes of decorations. In the case of illumination of walls the only available space is usually above the ceiling at a distance from the wall to be illuminated, the light passing through a slot cut in the ceiling. This has the great disadvantage that the edge of the slot nearer the wall cuts off the light, and a portion of the wall extending down from its junction with the ceiling is left unilluminated. Moreover, the plain slot in the ceiling leaves the apparatus still visible and forms a bad break in the decoration.

According to this invention the slot in the ceiling or like surface is provided with optical means to direct the light in the desired directions so that the whole desired surface is illuminated. Such means at the same time conveniently serve to obscure the apparatus and form a continuation (apparent or real) of the surface in which the slot is made. Preferably the optical means consists of suitably designed prismatic glassware used alone or in conjunction with diffusing and/or protecting arrangements.

The invention permits the apparatus to be located at any convenient distance from the surface to be illuminated without reference to the question of cut off by the slot edges. This enables the disguised aperture to fit in with and even enhance the existing decorative scheme.

Some arrangements embodying the invention are shown by way of example in the accompanying drawings, in which—

Figure 1 is an end view partly in section of a complete illuminating device located above a ceiling.

Figure 2 is a side view of Figure 1.

Figure 3 is a detail section of an alternative arrangement of prismatic glass for use in the device shown in Figure 1.

Figures 4 and 5 are end views of alternative arrangements, and

Figures 6, 7 and 8 are three arrangements of prismatic glass in plan from beneath.

Referring now to Figures 1 and 2, the slot 1 through which the light is to be emitted to illuminate the wall 2, is fitted

with a frame 3 carrying prismatic glass 4. Above the slot a box like structure is provided to exclude dust, formed by side walls 5, 6 and end walls 7, 8, some or all of these walls being in the form of, or provided with, doors to facilitate access for cleaning, as indicated in the case of wall 5. At the top are provided the light sources which in this case comprise a pair of baten light units 9 such as are described in our Specification No. 271,212. The brackets and like devices for securing the whole together and in position have not been shown in the drawings since there is no difficulty in devising suitable arrangements which will have to be suited to the particular location of the apparatus.

In Figure 3 the prismatic glass 4 instead of being arranged in a plane, is arranged in wedge formation, being supported in a suitable framework 10. This arrangement would be particularly useful for example when a central light source is to illuminate panels on opposite walls.

In Figure 4 a structure somewhat similar to Figure 1 is shown but only one batten unit 9 is provided.

In Figure 5 a further alternative is shown employing a reflector 11, instead of the prismatic glass. The form of the reflector will be arranged to effect the desired light distribution; here it is shown curved. In this case the slot 1 is open and the reflector forms an apparent closure thereof. The reflector may comprise a mirror, when its surface is preferably broken up so as to diffuse the light without interfering with its general redirection, and so that a definite reflection of the interior of the apparatus cannot be seen by anyone looking directly into the slot. Alternatively the reflector may be of glassware provided with reflecting prisms. In the apparatus illustrated there are two light sources each consisting of one of the battens above mentioned. One of them, 12, is at the side of the apparatus and the other, 13, is at the top. The reflector is preferably hinged so that it serves as a door for access to the interior, while the whole apparatus is enclosed to prevent the entry of dust.

In another alternative a row of light sources may be arranged on each side of the slot out of sight and a reflector of suitable curvature or with reflecting prisms mounted over the slot.

In both the above alternatives there is an actual break in the surface at the slot but the reflector is close behind and the effect on the observer is of a more or less continuous surface.

If desired glass with diffusing and/or refracting prisms may be used over the slot in conjunction with the above alternative forms.

In Figures 6, 7 and 8 are shown various shapes of slot glazed with prismatic glass. In Figure 6 the opening is square and is glazed with four triangular panels 14; this arrangement may be adopted for example in Figure 1 or 3. In Figure 7 the opening is circular and again glazed with four panels 15, while in Figure 8 the opening is elongated and glazed with three panels 16. It will be understood that the prisms may be on the upper or lower surface of the glass or on both and that diffusing prisms may be used on the same or separate pieces of glass. Further, the prismatic glass may be enclosed on either or both sides with plain glass to facilitate cleaning while as indicated at 17 in Figure 6 a wire netting safety screen may be provided on the outside of the glass.

In the case of cinematograph and other theatres the provision of low illumination or pilot lighting during the performance is usually prescribed. With certain methods of colour lighting it is desirable that the pilot lighting should be of the same colour as the main lighting so that the effects are not disturbed. According to a further feature of this invention, therefore, we mount the pilot lights in the main lighting apparatus and arrange the switches so that when the main lighting is switched off pilot lighting of the same colour is left on. Thus if the main light at any moment is say red for example, when this is extinguished a red pilot light is left on.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Illuminating apparatus for the purpose described in which the slot in the ceiling or like surface is provided with optical means to direct the light in the desired directions so that the whole desired surface is illuminated.

2. Apparatus according to Claim 1, in which the optical means comprises prismatic glassware closing the slot used alone or in conjunction with diffusing and/or protecting arrangements.

3. Apparatus according to Claim 1, in which the optical means comprises a reflector with a broken surface so that it forms an apparent closure of the slot and prevents the formation of visible definite images of the interior of the apparatus.

4. Apparatus according to Claim 3, in which there is a reflector on one or both sides of the slot, each reflector having a corresponding light source.

5. Apparatus according to Claim 3 or 4, in which the slot is covered with glass provided with diffusing and/or refracting prisms.

6. Apparatus according to Claim 2 or 5, in which the prismatic glassware is covered on either or both sides with plain glass and on the outer side with a safety screen of wire netting.

7. Apparatus according to any of the preceding claims, in which pilot lights are mounted in the main lighting apparatus and the switches arranged so that when the main lighting is switched off pilot lighting of the same colour is left on.

8. Illuminating apparatus substantially as described with reference to the accompanying drawings.

Dated this 21st day of May, 1928.

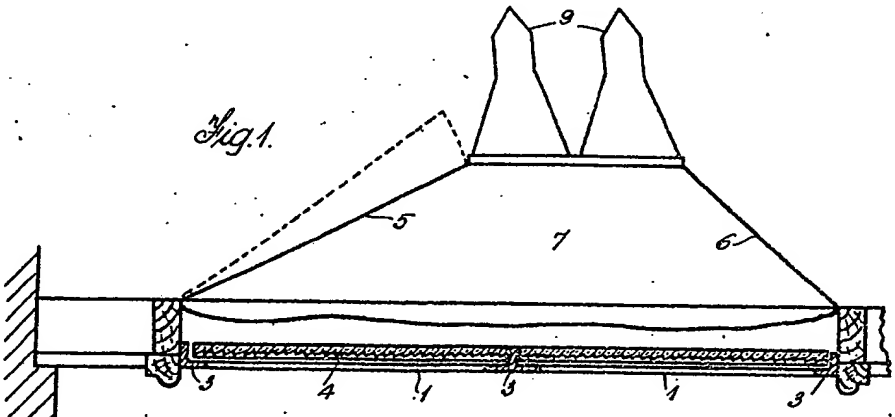
SEFTON-JONES, O'DELL & STEPHENS,
Chartered Patent Agents,
285, High Holborn, London, W.C. 1,
Agents for the Applicants.

296,885 COMPLETE SPECIFICATION

SHEE

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.



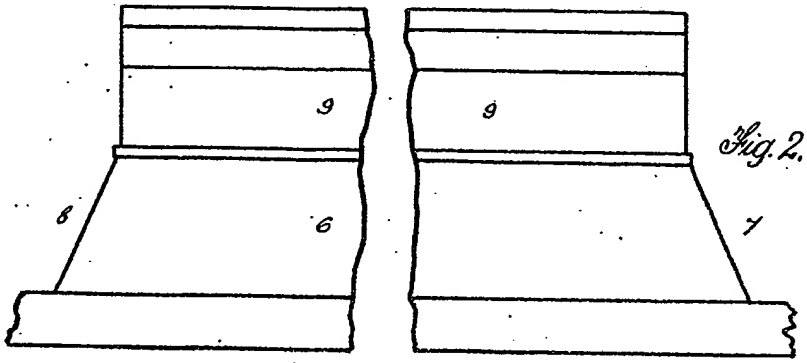


Fig. 2.

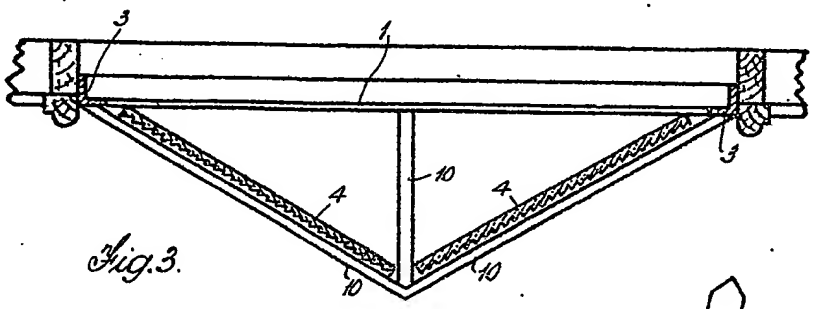


Fig. 3.

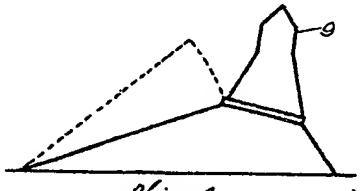


Fig. 4.

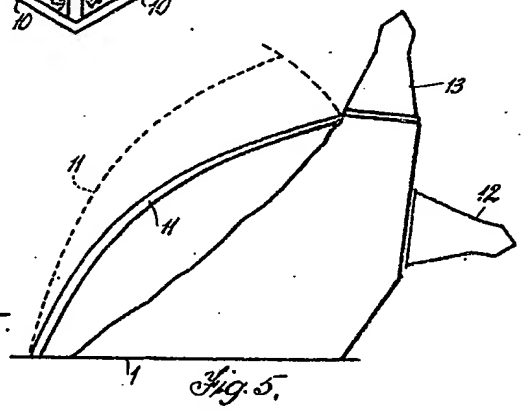
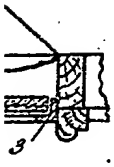


Fig. 5.



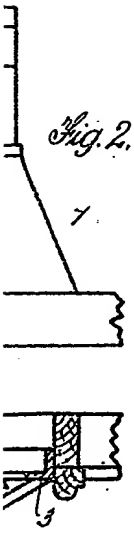
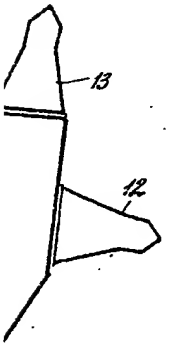


Fig. 2.



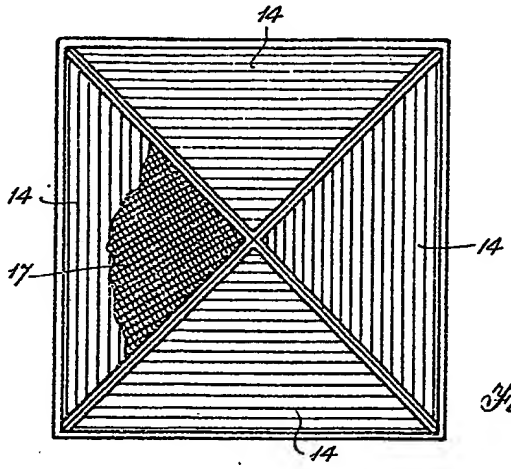


Fig. 6.

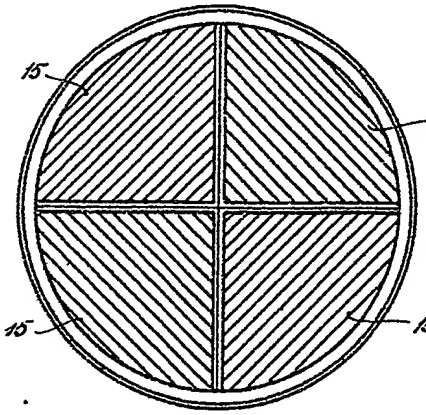


Fig. 7.

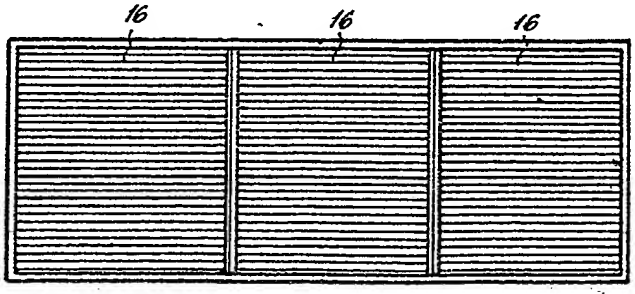


Fig. 8.

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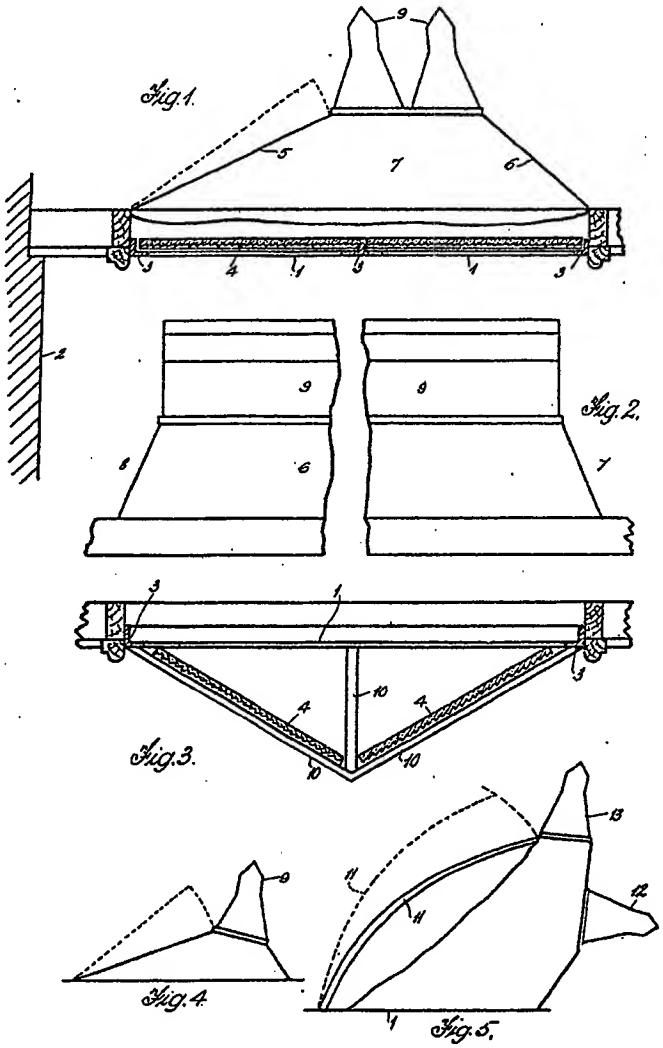
296,885 COMPLETE SPECIFICATION

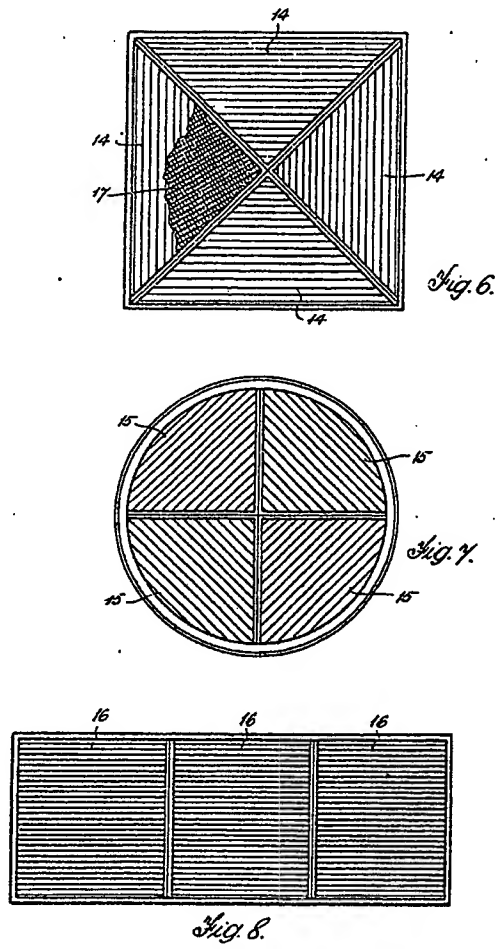
2 SHEETS

SHEET 1

SHEET 2

[This Drawing is a reproduction of the Original on a reduced scale.]





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